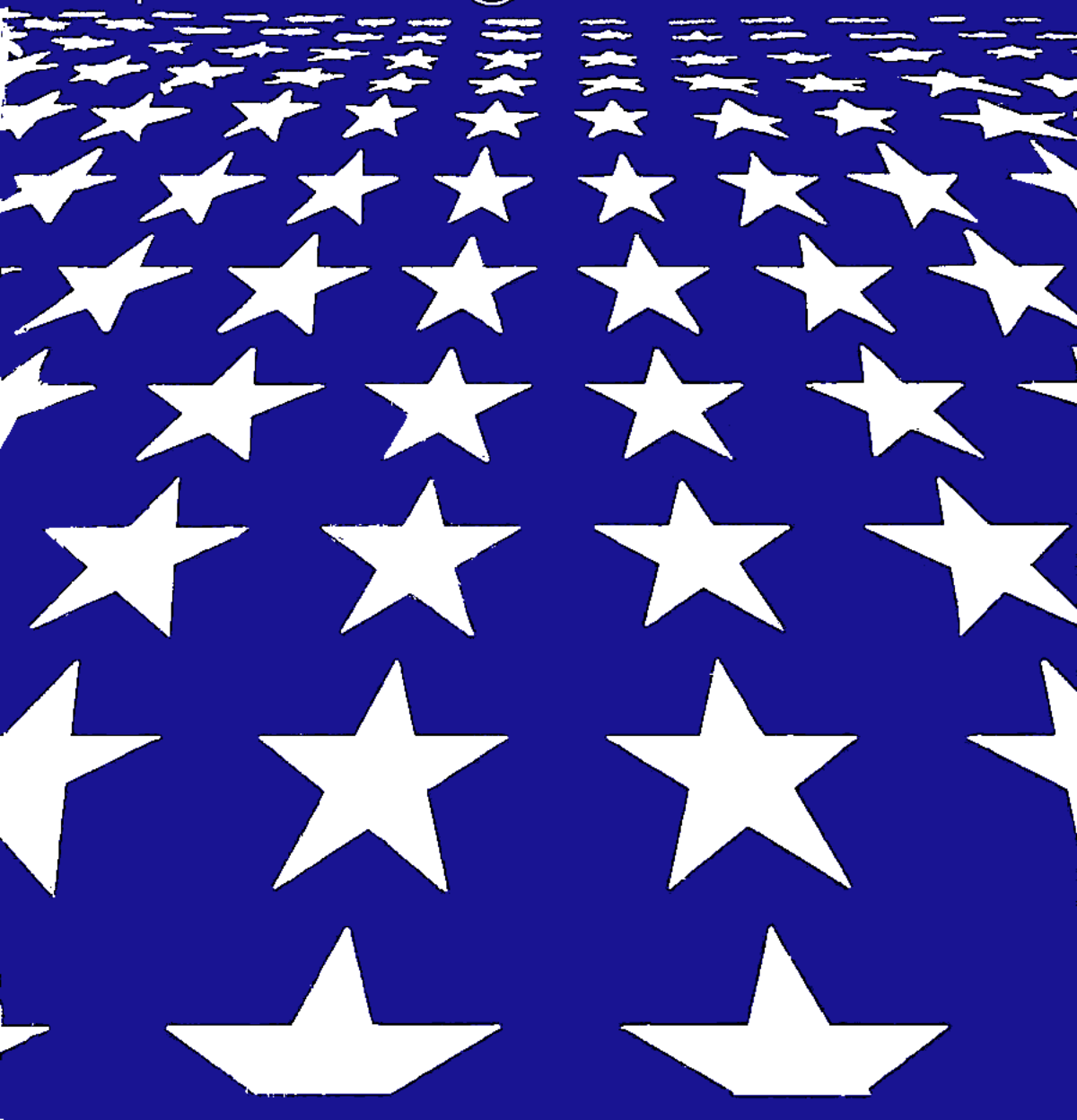
Minuteman 7 Personal Portable Electronic Calculator

Operating Instructions



Warranty

Minuteman 1 Electronic Calculator

Your new Minuteman 1 Electronic Calculator is a true, precision figuring instrument, developed to the most exacting standards possible. It is a durable machine, and with ordinary care and handling, will give you many years of maintenance-free performance. For this reason, it is fully warranted for one year (12 months) from date of purchase, under the terms and conditions of our standard factory warranty.

Operating Instructions

Introduction

Congratulations on the purchase of your new Minuteman 1 Electronic Calculator. It is a precision-built figuring instrument, designed with the very latest electronic components to perform a broad range of functions.

A tiny, solid state chip, which scientists refer to as Large Scale Integration (LSI) is the brainpower for your calculator and your assurance of optimum reliability. The display features another rugged advance: LED or Light Emitting Diode. There are just no individual lights to burn out. From its powerful nickel cadmium rechargeable battery pack to its vibration-free construction, your new calculator is a durable individual; capable of trouble-free performance in a plane, train or auto. Back at the office it works on standard AC current.

It adds, subtracts, multiplies and divides, instantly. Silently. It will also do chain and mixed assignments and store a constant multiplier and divisor. Your new calculator automatically delivers answers accurate to the decimal and displays credit balance results. You will find the "How to Calculate" instructions helpful in your work.

Once you become familiar with them, you will truly know your calculator inside and out.

Please take a moment to review this folder. Do the examples illustrated and within a very short time, you will be breezing through the most difficult tasks with absolute assurance. As a fast reference, you will find an outline of the general operating procedures printed on the back of the calculator itself.

AC Operation:

Connect the Charger unit to any standard 120 Volt electrical outlet and plug the 3-wire connector into the Calculator. (Note that the 3-wire connector is keyed and should not be forced into the socket the wrong way.) After the above connections, the power switch may be turned on and operation started. (While connected to AC, with power pack attached, the batteries are automatically charged whether the power switch is "ON" or "OFF".)

Battery Operation:

Disconnect the Charger cord and turn the power switch "ON". (An interlock switch in the Calculator socket will prevent battery operation if the 3-wire plug remains connected.) With normal use, a full battery charge can be expected to supply about 5 hours of working time.

Note: When the low battery indicator (L) on the display is lighted, do not continue battery operation. This indicates need for a battery charge. Use of the Calculator can be continued during the charge cycle.

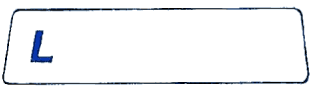
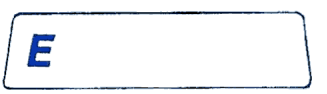
Battery Charging:

Simply follow the same procedure as in AC operation. The Calculator may be used during the charge period if desired. In order to fully charge a battery which has been completely discharged, 14 hours is required. In most cases, an overnight charge should be adequate if the batteries have not been fully discharged.

Note: Although no damage will result from prolonged periods with the Charger connected, it is advisable to remove the Charger cord when the Calculator is not in use after a full recharge cycle.

Controls and Indicators

"ON" Switch	Turns Calculator "ON" & "OFF".
'K' Switch	Slide switch with 2 positions; in the up position, the 'K' operation is in effect. Use of 'K' allows a number to be entered and retained as a "constant" for series multiplication or division.
D Key	During battery operation, the display will automatically turn off about 15 seconds after the last operation. Pressing the D key recalls the contents of the display. Pressing *any* key also reactivates the display.
C Key	Clears the Calculator and the display of all numbers.
CE Key	Clears display of the previous keyboard entry.
× Key	Enters a "multiply" command.
÷ Key	Enters a "divide" command.
+= Key	Adds the entered number, or carries out a previously entered "multiply" or "divide" command.
−= Key	Adds a minus sign to an entry. Subtracts the entered number or completes a previously entered "multiply" or "divide" command.
• Key	Enters a decimal point.
0 – 9 Keys	Enter digits of a number (limit 8 digits).

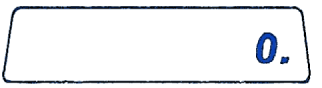
Power-ON Indicator	Appears at the center of the Display when all other portions of the Display are off. Appears as 
Overflow Indicator	Indicates a calculation result that contains more than eight digits. Appears as 
Low Battery Indicator	Warns of need for battery charge during battery operation. Appears as 
Minus Sign Indicator	Activated by the [−=] key for operations with negative numbers.
Decimal Point Indicator	Automatically appears to the right of any number entered, unless inserted in another sequence by use of the Decimal key. With fractional numbers, it will be preceded by a zero.
Error Indicator	Indicates an entry of more than 8 digits. Appears as 

Preliminary Instructions

1. To clear (erase)

A. Touch the [C] key.

B. Cleared display will be:



2. To enter (write a number)

Example: enter *123.45*

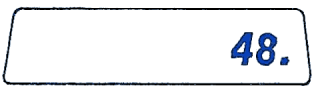
A. First, clear by touching [C]

B. Then touch number and decimal keys for *123.45* one at a time. Always start with the left hand digit and progress from left to right.
Display will then be:

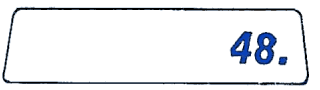
3. To clear an incorrect entry

Example: 48 + 12 is your calculation

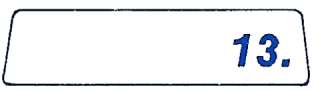
A. You have already entered 48
Display is:



B. You now touch the [+=] key.
Display will be:

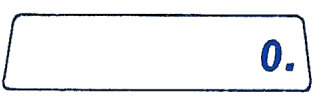


C. Then you enter *13* by mistake
The display is:



A mistake!

D. To clear *13*, touch the [CE] key
Display will be:



E. Then enter '12'
Display will be:

12.

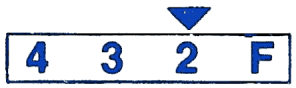
F. Finally, touch the [+=] key for answer
Display will be:

60.

Note: Use [CE] during, or immediately after entry of a number.

G. Decimal Settings

The unit has a preset decimal system allowing float-in, fixed-out results with automatic round up:

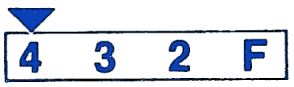


2 • 1 2 3 x 1 • 4 5 =+

3.08

2 • 1 2 3 x 1 • 4 5 +=

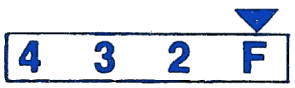
3.078



2 • 1 2 3 x 1 • 4 5 +=

3.0784

However, to facilitate your familiarization with the unit, all of the examples on the following pages have been prepared using the automatic float-in, float-out decimal system. (Indicator in "F" position)



2 • 1 2 3 x 1 • 4 5 =+

3.07835

Calculations

Addition

Example #1: 16.39 + 9.83 =

a.	C	0.
b.	1 6 • 3 9	16.39
c.	+=	16.39
d.	9 • 8 3	9.83
e.	+=	26.22

Example #2: 16 + 9 + 8.3 + 4.1 =

a.	C	0.
b.	1 6	16.
c.	+=	16.
d.	9	9.
e.	+=	25.
f.	8 • 3	8.3
g.	+=	33.3
h.	4 • 1	4.1
i.	+=	37.4

Subtraction

Example #1: 12.81 − 3.6 =

a.	C	0.
b.	1 2 • 8 1	12.81
c.	+/=	12.81
d.	3 • 6	3.6
e.	−/=	9.21

Example #2: 23 − 6 + 2.1 − 5 =

a.	C	0.
b.	2 3	23.
c.	+/=	23.
d.	6	6.
e.	−/=	17.
f.	2 • 1	2.1
g.	+/=	19.1
h.	5	5.
i.	−/=	14.1

Example #3: 62 − 82 + 10 − 40 =

a.	C	0.
b.	6 2	62.
c.	+ =	62.
d.	8 2	82.
e.	− =	− 20.
f.	1 0	10.
g.	+ =	− 10.
h.	4 0	40.
i.	− =	− 50.

Multiplication

Example #1: 29.32 × 56.5 =

a.	C	0.
b.	2 9 . 3 2	29.32
c.	X	29.32
d.	5 6 . 5	56.5
e.	+ =	1656.58

Multiplication

Example #2: 3 × 21 × 6.1 =

a.	C	0.
b.	3	3.
c.	x	3.
d.	2 1	21.
e.	x	63.
f.	6 • 1	6.1
g.	+=	384.3

Example #3: Use of 'K' Switch

31 × 6 =
31 × 8.2 =
31 × 7.6 =

a.	C	0.
b.	Push 'K' on (up) ↑	0.
c.	3 1	31.
d.	x	31.
e.	6	6.
f.	+=	186.
g.	8 • 2	8.2
h.	+=	254.2

i.	7 • 6	7.6
j.	+=	235.6

k. Push 'K' off (down) ↓

Division

Example #1: 376 ÷ 53 =

a.	C	0.
b.	3 7 6	376.
c.	÷	376.
d.	5 3	53.
e.	+=	7.0943396

Example #2: 81 ÷ 3 ÷ 9 =

a.	C	0.
b.	8 1	81.
c.	÷	81.
d.	3	3.
e.	÷	27.
f.	9	9.
g.	+=	3.

Example #3: **Use of 'K' switch**

$181 \div 15 =$
$96 \div 15 =$
$117 \div 15 =$

a.	C	0.
b.	Push 'K' on (up) ↑	0.
c.	1 8 1	181.
d.	÷	181.
e.	1 5	15.
f.	+=	12.066666
g.	9 6	96.
h.	+=	6.4
i.	1 1 7	117.
j.	+=	7.8
k.	Push 'K' off (down) ↓	

Mixed Arithmetic

Example #1: $23 \times (-4) \div (-6) =$

a.	C	0.
b.	2 3	23.
c.	X	23.
d.	4	4.

e.	[−=]	− 92.
f.	[÷]	− 92.
g.	[6]	6.
h.	[−=]	15.333333

Example #2: $\frac{(9 + 6 - 5) \times 8}{20} - 8 =$

a.	[c]	0.
b.	[9]	9.
c.	[+=]	9.
d.	[6]	6.
e.	[+=]	15.
f.	[5]	5.
g.	[−=]	10.
h.	[x]	10.
i.	[8]	8.
j.	[÷]	80.
k.	[2] [0]	20.
l.	[+=]	4.
m.	[8]	8.

n.	[−=]	− 4.

Exponents

Example #1: $(3)^5 =$

a.	[C]	0.
b.	Push 'K' on (up) ↑	0.
c.	[3]	3.
d.	[x]	3.
e.	[3]	3.
f.	[+=]	9.
g.	[+=]	27.
h.	[+=]	81.
i.	[+=]	243.
j.	Push 'K' off (down) ↓	

Overflow Interpretation

The overflow indicator "□" will appear when the display capacity of the Calculator is exceeded.

For example, multiplication of
12345678 × 345678
will give the following display

The "□" symbol indicates "overflow", or an answer of more than the 8 digits shown. To obtain the correct decimal location, simply record the displayed number and move the decimal point 8 places to the right. The real answer will then be:

4,267,629,200,000.
8 places

This procedure applies to all operations, multiplication, division, addition and subtraction. Use the [C] key to clear the overflow.

Battery Notes

1. With normal use at room temperature, a full battery charge can be expected to supply about 5 hours of accumulated working time.
2. The Calculator may be used while its battery is charging.
3. Batteries that have been neither used nor charged for as long as 2 or 3 months will suffer substantial loss of operating time through a tendency to self-discharge. As a general rule, batteries lose about 1% charge per day due to self-discharge, at normal temperatures.
4. For optimum performance and long life:
   a. Alternate frequently between Battery and AC power.
   b. Operate at or near normal room temperatures.
   c. Charge as soon as possible upon appearance of the Low-Battery indicator.
5. Recharge time is 14 hours for a fully discharged battery.
6. The Low-Battery indicator is designed to appear as soon as battery voltage drops to the lowest value that will support optimum performance of the Calculator. Should further discharge occur, through continued operations or self-discharge, the Low-Battery indicator may fail to appear. Do not continue to operate on batteries when this condition is noted, or a damaged battery may result.
7. As a general rule, if improper operation occurs, first try the Calculator with its charger connected. If operation is then normal, this indicates the batteries are low.
8. Do not store the unit in high temperature areas such as the top of radiators or the rear deck of automobiles exposed to the sun. The Calculator will operate satisfactorily over an ambient temperature range of 0 to 50C (32 to 122F) and relative humidity to 95%.
9. Additional "Battery Paks" may be obtained by writing to the office nearest you. See back cover for addresses, or simply visit the authorized dealer in your community.

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